



Artificial Intelligence based Disease Identification System for Crops (AI-DISC)- Mobile Application for Identification of Disease-Insect-Pest

ICAR-IASRI, New Delhi has developed an Artificial Intelligence (AI) based android mobile application, called AI-DISC (Artificial Intelligence Based Disease Identification for Crops) that can automatically identify plant diseases with visible symptoms. AI-DISC is a compressive AI powered mobile application for automatic identification of disease and insect-pest of different crops. This is one of the premier AI applications of its kind in ICAR. Sophisticated Deep learning techniques have been used for detection of the diseases with a simple, user-friendly interface. User has to install the mobile app, capture the disease image and click to identify and get the remedy advisory of the diseases. Presently the application is capable of identifying major diseases in around nineteen major crops. It also provides remedies along with the identified disease.



Crops and diseases covered in AI-DISC

- **Rice:** Bacterial Leaf Blight, Brown Spot, False Smut, Blast, Narrow Brown Leaf Spot, Tungro and Sheath Rot, Sheath Blight
- **Wheat:** Brown Rust, Black Rust, Yellow Rust
- **Maize:** Maydis Leaf Blight, Tucicum Leaf Blight, Common Rust, Brown Stripe, Downy Mildew, Curvularia Leaf Spot, Sorghum Downy Mildew, Banded Leaf& Sheath Blight
- **Greengram:** Powdery Mildew, Yellow Mosaic
- **Cluster Bean:** Bacterial Blight, Powdery Mildew
- **Mothbean:** Crinkle Virus, Yellow Vein Mosaic
- **Chickpea:** Collar Rot, Wilt and Root Rot
- **Mustard:** Downy Mildew, Powdery Mildew, White Rust
- **Cotton:** Bacterial Blight, Cotton Leaf Curl Virus, Wilt
- **Cucurbits:** Alternaria Leaf Spot, Healthy
- **Tomato:** Early Blight, Late Blight, Leaf Curl and Target Leaf Spot
- **Coriander:** Powdery Mildew, Stem Gall
- **Brinjal:** Early Blight, Phomopsis Leaf Blight, Little Leaf and Phomopsis Leaf Blight
- **Chilli:** Anthracnose, Leaf Curl Virus
- **Apple:** Alternaria Leaf Blotch, Apple Mosaic Virus, Apple Scab, Marssonina Leaf Blotch
- **Peach:** Leaf Curl, Shot Hole
- **Kinnow:** Citrus canker, Fruit Rot, Greening
- **Assam Lemon:** Citrus Greening, Citrus Tristeza Virus
- **Mandarin:** Dieback, Sooty Mold



Source: ICAR-IASRI, New Delhi

Training program for farmers of Jharkhand at Institute of Horticulture Technology Greater Noida

A group of 15 farmers were deputed by the Horticulture Department of Sahibganj, Jharkhand to the Institute of Horticulture Technology Greater Noida for a 5-day training cum exposure visit programme. The programme was organized under the MIDH- Mission Integrated Horticulture Development. Through this programme farmers were provided knowledge about soil health management, hi-tech nursery of vegetables, protected cultivation of vegetables, open cultivation of vegetables and organic farming, various diseases and pests in vegetables and fruits. Farmers were also taken out for exposure visit to Padma Shri Awardee progressive farmer Mr. Kanwal Singh Chauhan farm in Murthal, Sonipat, Haryana, where Mr. Chauhan informed the farmers about the production and processing of baby corn, mushroom production technology as well as the production and processing of various fruits and vegetables. The experts of the institute laid special emphasis on how to double the income of farmers through cultivation of horticulture crops. Farmers were introduced to various latest technologies used in modern horticulture.



Glimpse of Jharkhand Farmers Training Program in IHT Greater Noida

Commercial Hydroponics Farming

IHT organized a training on Commercial Hydroponics Farming. The training contained theoretical and practical sessions. This program is ideal for anyone looking to gain hands-on experience with hydroponic systems and learn more about sustainable, soil-less food production. During the training, participants were gained valuable experience in the operation of hydroponic systems, including monitoring, testing, and troubleshooting. The main topics tackled were: 1. Introduction, growing systems, water. 2. Basics of plant nutrition. 3. Fertilizers. 4. Nutrient solution recipe and calculations. 5. Growing media and their properties. 6. Water and media sampling, interpretation, and analyzing the data. 7. Feedback from analysis and how to make adjustments. 8. Salinity and its effect on plant growth.

In addition to these lectures, several field visits were conducted to show the commercial farming systems in the technology park and had an overview of the farm and the different hydroponic systems implemented. They also learned about Vertical Systems, NFT Techniques, etc.



Trainees Undergoing Hands on Training on Hydroponic Nursery Production

Technology Demonstration at IHT Mandira Assam

Training programme were organized at IHT Mandira and farmer fields to demonstrate the production technology with technological interventions of the Malbhog Banana and SOP practices necessary from the planting of banana plants to the harvesting of the banana. This have an exceptional knowledge learning experience for the beneficiary farmers as almost all are learn organized practices of Malbhog banana cultivation. Their queries related to banana seedling production, selection and collection of quality suckers, selection and preparation of land, fertigation and irrigation, post-harvest management have addressed with impeccable solutions by IHT, Mandira. IHT, Mandira distributed tissue culture raised Malbhog banana plants to the selected beneficiary farmers of Assam and organized training programme for farmers on plantation and crop care for the banana plants.



Tissue Culture Raised Malbhog Banana Plants Distribution to Farmers of Assam

UPCOMING TRAINING PROGRAMMES

S. No.	Title	Duration	Mode of Training
01	Landscape Horticulture	2 Week	Online cum Offline
02	Commercial Hydroponics	2 Week	Online cum Offline
03	Online Basic Hydroponic	3 Days	Online
04	Protected Cultivation of Vegetables Crops	1 Week	Online and Offline

***Customized courses are also offered on demand.**

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